

ENGINEERING HERITAGE RECOGNITION PROGRAM

PROPOSAL TO NOMINATE AN ITEM OF INTEREST

Cooerwull Footbridge



Cooerwull Footbridge as re-erected at Zig Zag.

Item Name:	Top Points station footbridge
Other/Former Names:	Cooerwull Station footbridge
Locality:	Zig Zag, NSW
Address:	Chifley Drive, Clarence
Co-ordinates	Top Points -33.47074; 150.18951; Cooerwull -33.48353; 150.14355;
Current Owner:	Zig Zag Railway Co-operative
Original Owner:	NSW Government Railways
Current use:	Footbridge
Former use:	Footbridge
Proposed use:	Footbridge

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Item Condition:	Excellent		
Designer:	Department of Railways NSW Way and Works Branch		
Builder:	Department of Railways NSW Way and Works Branch		
Started:	1941	Completed:	1941
History:	<p>A station at Coerwull, just west of Lithgow, and its footbridge, were provided in 1941 as a wartime expedient to accommodate the very large number of workers at the nearby Lithgow Small Arms Factory. Residential needs were in excess of the local area's housing capacity, so commuting by train from other Blue Mountains towns had to be arranged. The platforms were quickly built of timber, obviously intended to be in use only for the duration of the war.</p> <p>A footbridge was provided to cross the track and it was also quickly built, consisting of pairs of heavy timbers leaning against each other across a cutting as a kind of simple arch supported by relatively large concrete foundation thrust blocks. Two other footbridges of essentially the same design had been built further east at Hazelbrook and Woodford in the early 1920s.</p> <p>Even after the station had closed, the timber bridge was useful for locals wishing to cross the line so it was maintained until about 1995 when it was replaced with a modern steel and concrete structure. But the quirky old bridge was deemed to have some heritage value so was lifted bodily and placed on new thrust blocks, as well as being propped midspan, and displayed parallel with the railway above the cutting.</p> <p>Later it was decided that this static and inaccessible preservation without purpose could be improved, so the bridge was relocated to Top Points station on the Zig Zag Tourist Railway, just east of Lithgow. The bridge thus performs a useful role in preservation.</p> <p>The bridges at Hazelbrook and Woodford have not survived.</p>		
Description:	<p>The bridge consists of opposing pairs of 300mm x 150mm (12in x 6in) timbers bearing against each other in a metal shoe at the apex. At Coerwull, and also at Woodford and Hazelbrook, the bridges were sited over deep cuttings and thus had sufficient clearance over the line without any sort of raised structure as an abutment. The inclined timbers are tied by horizontal timbers of the same dimensions. The connection by metal plates and bolts, at least initially, was nominal so it is assumed that the cross member was not intended to contribute to the arch action. Later, and as the bridge now exists, much longer plates and thus a stronger joint were provided.</p> <p>The inclined timbers form the stepways of the bridge and the tie member the floor of the crossing.</p> <p>According to the original plans there was neither connection between the apices nor transverse bracing between the timbers to improve stability, but these were provided in steel at the time of construction or soon after. At the time of electrification of the Western Line (1957) large steel guards were provided to restrict public access to high voltage wiring.</p> <p>The bridge's location in preservation is not across a cutting, so to provide the required clearance above tourist trains the inclined members are supported on strong concrete and masonry towers which provide reaction to the thrust of the 'arch'.</p>		

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Engineering Significance:	<p>A conceptually simple and cheap solution was provided for what was seen as a short-term need. Surviving longer than perhaps anticipated, with its overt expression of the structural action of the bridge attracting attention, led to its preservation as an unused lineside relic, until it found a home on a tourist railway.</p> <p>It is a rare example of a preserved timber railway footbridge.</p>		
Webpage Summary:	<p>A station at Coerwull, just west of Lithgow, and its footbridge, were provided in 1941 as a wartime expedient to accommodate the very large number of workers at the nearby Lithgow Small Arms Factory. Residential needs were in excess of the local area's housing capacity, so commuting by train from other Blue Mountains towns had to be arranged.</p> <p>The platforms were quickly built of timber, obviously intended to be in use only for the duration of the war.</p> <p>A footbridge was provided to cross the track and it was also quickly built, consisted of pairs of heavy timbers leaning against each other across a cutting as a kind of simple arch supported by relatively large concrete foundation thrust blocks. Two other footbridges of essentially the same design had been built further east at Hazelbrook and Woodford in the early 1920s.</p> <p>Even after the station had closed, the timber bridge was useful for locals wishing to cross the line so it was maintained until about 1995 when it was replaced with a modern steel and concrete structure. But the quirky old bridge was deemed to have some historical value so was lifted bodily and placed on new thrust blocks, as well as being propped midspan, and displayed parallel with the railway above the cutting.</p> <p>Later it was decided that this static and inaccessible preservation without purpose could be improved, so the bridge was relocated to Top Points station on the Zig Zag Tourist Railway, just east of Lithgow. The bridge thus performs a useful role in preservation.</p> <p>The bridges at Hazelbrook and Woodford have not survived.</p>		
Engineering Theme:	Railway		
Heritage Listing: (State and/or Local Authority)	None		
References:	<i>Notes on Coerwull, Hazelbrook and Woodford Footbridges.</i> Ken Kershaw and Bill Phippen. <i>Railway Digest</i> , March 2016		

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EHA Branch Chair:	Sydney	Approval Date:	2024.01

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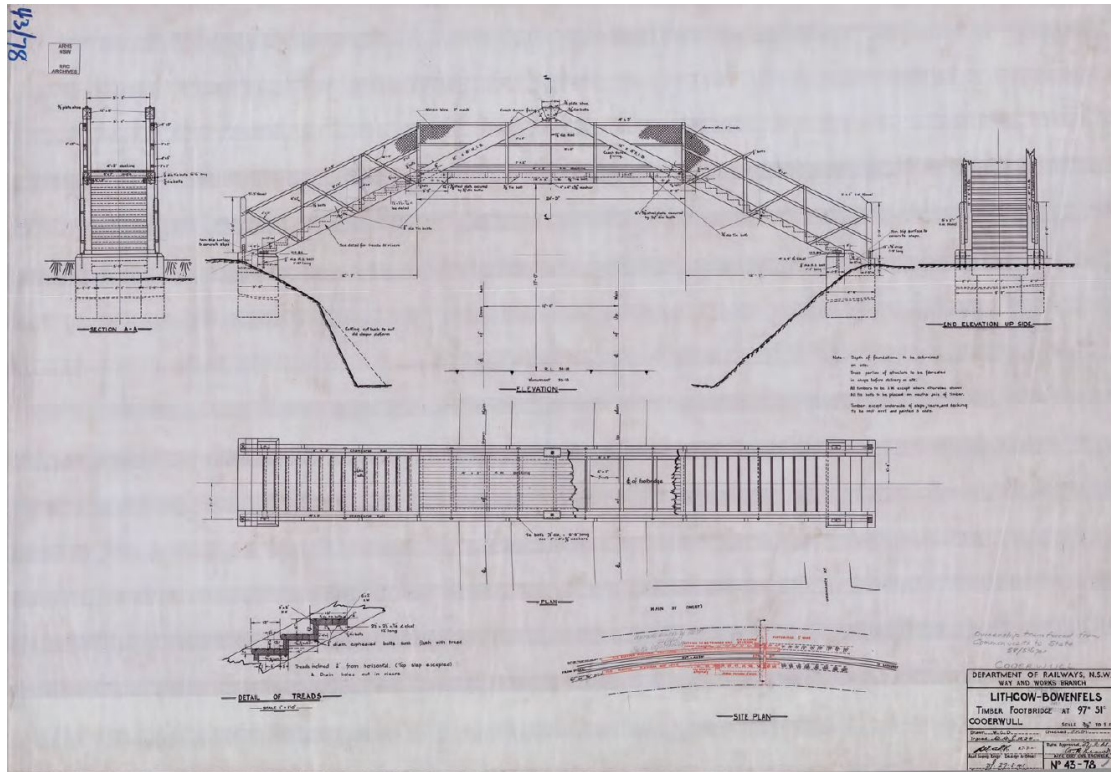


The footbridge in its original location at Coerwull. July 1970 Alex Grunbach ARHS 0205064

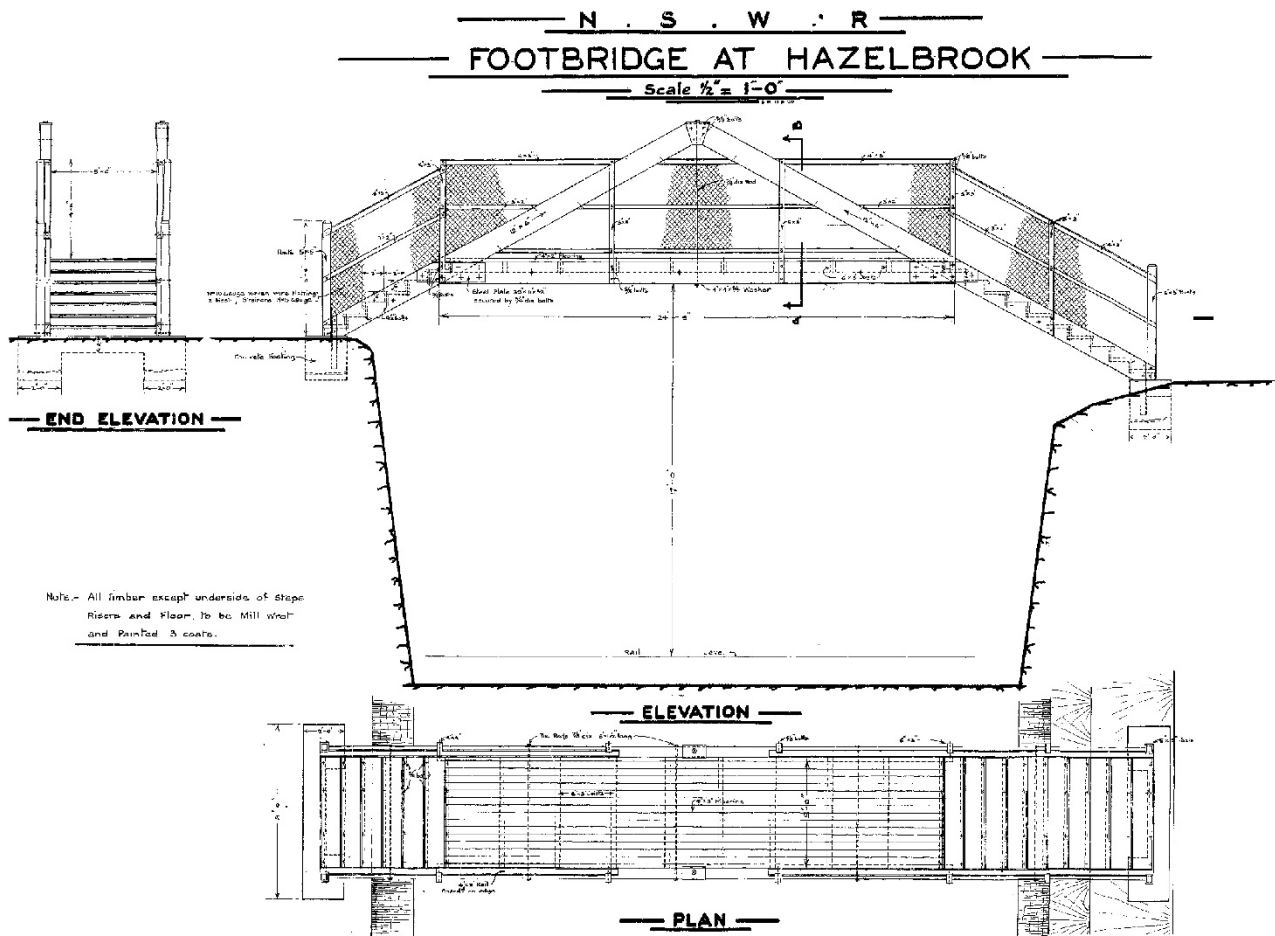


The footbridge relocated to a preservation site adjacent to the railway at Coerwull. ARHS 0118391

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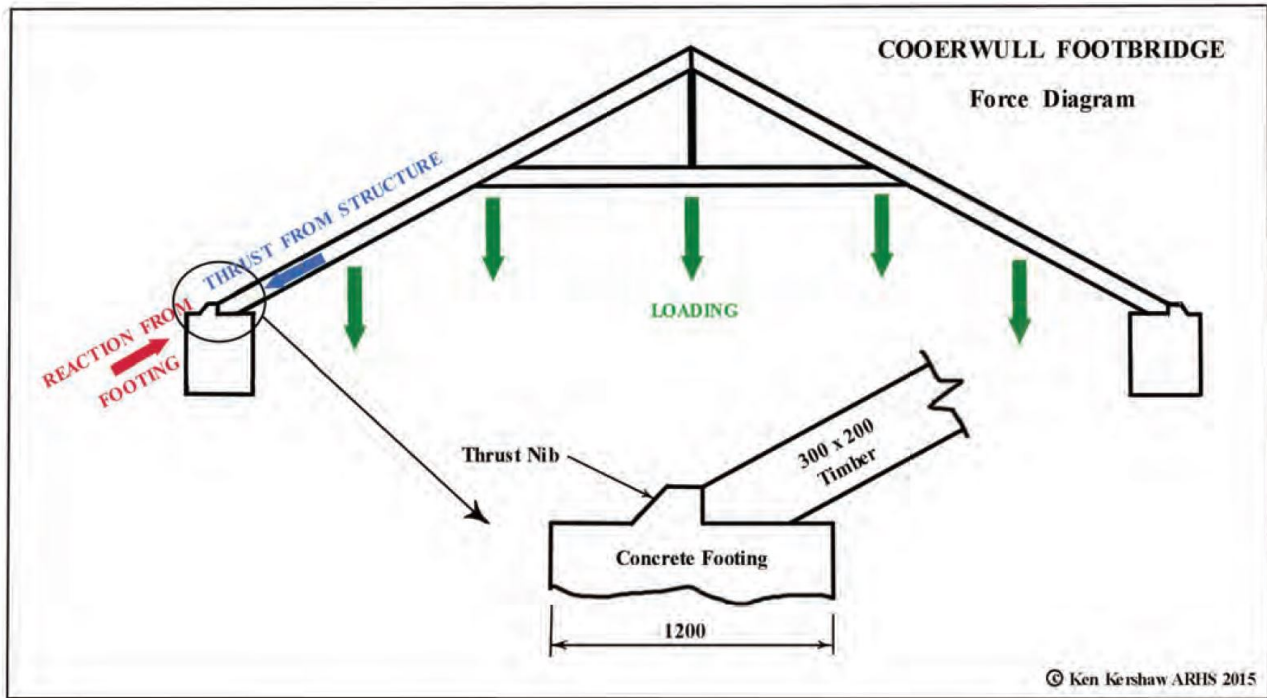


Plans of bridge at Coerwull ARHS Collection



Original plans of the similar bridge at Hazelbrook. ARHS Collection

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Force Diagram for the bridge. Ken Kershaw.